

Amendment and Response

Serial No.: 09/827,107

Confirmation No.: 5006

Filed: 5 April 2001

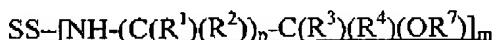
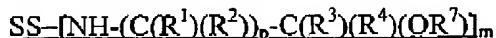
For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

Page 2 of 10

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. – 31. (Cancelled)

32. (Currently Amended) A functionalized support material having the formula:wherein:SS represents a support material; $\text{R}^1, \text{R}^2, \text{R}^3, \text{ and } \text{R}^4$ are each independently hydrogen or an organic group with the proviso that at least one of R^3 and R^4 is an aromatic group;The functionalized support of claim 31 wherein R^7 is hydrogen, a protecting group, or an organic group capable of being derivatized; p is at least 1; and m is 1 to the resin capacity of the support material.33. (Currently Amended) A functionalized support material having the formula:wherein:SS represents a support material; $\text{R}^1, \text{R}^2, \text{R}^3, \text{ and } \text{R}^4$ are each independently hydrogen or an organic group with the proviso that at least one of R^3 and R^4 is an aromatic group; R^7 is hydrogen or an organic group; p is at least 1; and m is 1 to the resin capacity of the support material;

Amendment and Response

Serial No.: 09/827,107

Confirmation No.: 5006

Filed: 5 April 2001

For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

Page 3 of 10

~~The functionalized support of claim 31 which wherein the functionalized support material is in the form of a plurality of particles.~~

34. (Original) The functionalized support of claim 33 wherein each R⁷ is the same on any one particle.

35. (Original) The functionalized support of claim 33 wherein the plurality of particles comprise at least two different R⁷ groups.

36. (Original) The functionalized support of claim 35 which forms a combinatorial library.

37. (Currently Amended) A functionalized support material having the formula:

SS-[NH-(C(R¹)(R²))_p-C(R³)(R⁴)(OR⁷)]_m

wherein:

SS represents a support material;

R¹, R², R³, and R⁴ are each independently hydrogen or an organic group with the proviso that at least one of R³ and R⁴ is an aromatic group;

R⁷ is hydrogen or an organic group;

p is at least 1; and

m is 1 to the resin capacity of the support material;

The functionalized support of claim 31 which wherein the functionalized support material is in the form of a membrane.

38. (Original) The functionalized support of claim 37 wherein each R⁷ is the same on the membrane.

Amendment and Response

Serial No.: 09/827,107

Confirmation No.: 5006

Filed: 5 April 2001

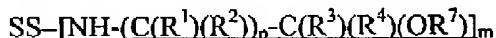
For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

Page 4 of 10

39. (Original) The functionalized support of claim 37 wherein the membrane comprises at least two different R⁷ groups.

40. (Original) The functionalized support of claim 39 which forms a combinatorial library.

41. (Currently Amended) A functionalized support material having the formula:



wherein:

SS represents a support material;

R¹, R², R³, and R⁴ are each independently hydrogen or an organic group with the proviso that at least one of R³ and R⁴ is an aromatic group;

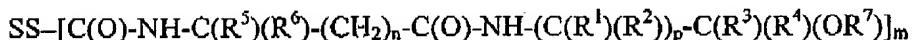
R⁷ is hydrogen or an organic group;

p is at least 1; and

m is 1 to the resin capacity of the support material;

The functionalized support of claim 31 wherein NH-(C(R¹)(R²))_p-C(R³)(R⁴)(OR⁷) is bound to the support material through a carbonyl group.

42. (Allowed) A functionalized support having the following formula:



wherein:

SS represents a support material;

R¹, R², R³, and R⁴ are each independently hydrogen or an organic group with the proviso that at least one of R³ and R⁴ is an aromatic group;

R⁷ is hydrogen or an organic group;

R⁵ and R⁶ are each independently an organic group;

n is 0 to 1;

Amendment and Response

Serial No.: 09/827,107

Confirmation No.: 5006

Filed: 5 April 2001

For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

Page 5 of 10

is at least 1; and

m is 1 to the resin capacity of the support material.

43. (Allowed) The functionalized support of claim 42 wherein p is 1 to 20.

44. (Allowed) The functionalized support of claim 42 wherein R⁷ is hydrogen, a protecting group, or an organic group capable of being derivatized.

45. (Allowed) The functionalized support of claim 42 which is in the form of a plurality of particles.

46. (Allowed) The functionalized support of claim 45 wherein each R⁷ is the same on any one particle.

47. (Allowed) The functionalized support of claim 45 wherein the plurality of particles comprise at least two different R⁷ groups.

48. (Allowed) The functionalized support of claim 47 which forms a combinatorial library.

49. (Allowed) The functionalized support of claim 42 which is in the form of a membrane.

50. (Allowed) The functionalized support of claim 49 wherein each R⁷ is the same on the membrane.

51. (Allowed) The functionalized support of claim 49 wherein the membrane comprises

Amendment and Response

Page 6 of 10

Serial No.: 09/827,107

Confirmation No.: 5006

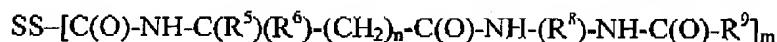
Filed: 5 April 2001

For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

at least two different R⁷ groups.

52. (Allowed) The functionalized support of claim 51 which forms a combinatorial library.

53. (Allowed) A functionalized support having the following formula:



wherein:

SS represents a support material;

R⁵, R⁶, and R⁹ are each independently an organic group;

R⁸ is an organic connecting group;

n is 0 to 1; and

m is 1 to the resin capacity of the support material.

54. (Allowed) The functionalized support of claim 53 wherein C(O)-R⁹ is derived from 4-hydroxymethylbenzoic acid, 4-hydroxymethylphenoxyacetic acid, 4-hydroxymethyl-3-methoxyphenoxybutyric acid, 4-hydroxymethylphenylacetic acid, 4-bromoacetylphenoxyacetic acid, 4-(diphenylhydroxymethyl)benzoic acid, 4-hydroxymethyl-2-methoxy-5-nitrophenoxybutyric acid, phenoxyacetic acid and phenoxybutyric acid analogs of Rink acid and Rink amide linker molecules and Sieber amide linker molecules, 4-sulfamylbenzoic acid, 4-sulfamylbutyric acid, 4-formylphenoxyacetic acid, 4-(4-formyl-3-methoxyphenoxy)butyric acid, 4-formyl-3,5-dimethoxyphenoxyacetic acid, or 3-formylindol-1-ylacetic acid.

55. (Allowed) The functionalized support of claim 53 wherein NH-(R⁸)-NH is derived from ethylenediamine, 1,3-propanediamine, 1,3-diamino-2-hydroxypropane, or 1,6-hexanediamine.

56. (Allowed) The functionalized support of claim 53 which is in the form of a plurality

Amendment and Response

Serial No.: 09/827,107

Confirmation No.: 5006

Filed: 5 April 2001

For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

Page 7 of 10

of particles.

57. (Allowed) The functionalized support of claim 56 wherein each R⁹ is the same on any one particle.

58. (Allowed) The functionalized support of claim 56 wherein the plurality of particles comprise at least two different R⁹ groups.

59. (Allowed) The functionalized support of claim 56 which forms a combinatorial library.

60. (Allowed) The functionalized support of claim 53 which is in the form of a membrane.

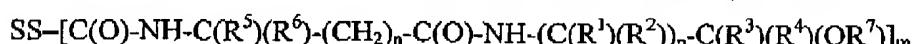
61. (Allowed) The functionalized support of claim 60 wherein each R⁹ is the same on the membrane.

62. (Allowed) The functionalized support of claim 60 wherein the membrane comprises at least two different R⁹ groups.

63. (Allowed) The functionalized support of claim 62 which forms a combinatorial library.

64. (Cancelled)

65. (Allowed) A functionalized support having the following formula:



Amendment and Response

Page 8 of 10

Serial No.: 09/827,107

Confirmation No.: 5006

Filed: 5 April 2001

For: SOLID PHASE SYNTHESIS SUPPORTS AND METHODS

wherein:

SS represents a support material;

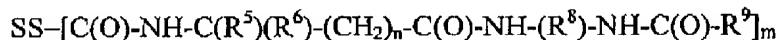
R^1 , R^2 , R^3 , and R^4 are each independently hydrogen, a (C1-C14)alkyl group, a (C3-C14)cycloalkyl group, or a (C5-C12)aryl group, with the proviso that at least one of R^3 and R^4 is a (C5-C12)aryl group;

 R^7 is hydrogen or an organic group;

R^5 and R^6 are each independently a (C1-C14)alkyl group, a (C3-C14)cycloalkyl group, or a (C5-C12)aryl group;

 n is 0 to 1; p is 1 to 20; and m is 1 to the resin capacity of the support material.

66. (Allowed) A functionalized support having the following formula:



wherein:

SS represents a support material;

R^5 and R^6 are each independently a (C1-C14)alkyl group, a (C3-C14)cycloalkyl group, or a (C5-C12)aryl group;

 R^9 is an organic group; R^8 is a (C1-C1000)alkylene group; n is 0 to 1; and m is 1 to the resin capacity of the support material.